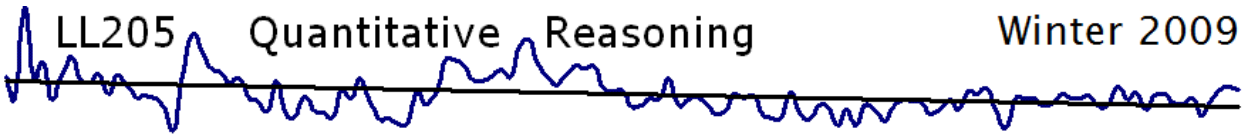

Credits: 4 credit hours.

For an up-to-date schedule, topic descriptions and links to online resources, go to the course Website at http://qrc.depaul.edu/dopitz

Instructor: Donald L. Opitz
Office: 348 O'Malley (Loop)
Hours: TBA
Email: dopitz@depaul.edu
Phone: 312-362-6426

Class Schedule (*May change with advance notice.*)

DATE	TOPIC	WHAT'S DUE
1/7	Introduction to "QR" | Tips for Using Excel Topic 1: Mathematical Models and Linear Models	
1/14	Topic 1: Mathematical Models and Linear Models	Activity 1 (in-class)
1/21	Topic 2: Absolute and Relative Quantities Topic 3: Percentages	Activities 2 and 3 (in-class) Homework 1
1/28	Topic 4: Making and Interpreting Graphs Topic 5: Localized Trendlines	Activities 4 and 5 (in-class) Homework 2
2/4	Midterm Practicum	Homework 3 (inc. MP practice)
2/11	Topic 6: Consumer Price Index (CPI)	Activities 6a and 6b (in-class) Stage 1 Final Project
2/18	Topic 7: Exponential Models	Activity 7 (in-class) Homework 4
2/25	Topic 8: Financial Mathematics	Activity 8a (in-class) Stage 2 Final Project
3/4	Topic 8 (continued): Financial Mathematics	Activity 8b (in-class) Homework 5
3/11	Presentations (Attendance is mandatory)	Stage 3 Final Project
3/18	Final Practicum	Homework 6 (FP practice)

Should extenuating circumstances necessitate an absence, when possible students must inform the instructor in advance. Work missed due to absences is subject to the **Policy on Late Work**, in this syllabus.

Course Description
We encounter quantitative information daily in our lives, but how do we know to trust the information we consume? What do the statistics and charts appearing in the news *really* tell us? Can we discern the logic and mathematics used in generating the data? And to what extent do we identify as active analysts of the information instead of passive consumers? These are the fundamental questions that motivate this course's inquiry, which is focused on the analysis, interpretation, and communication of quantitative data within the contexts in which they are generated and used. Students will visit issues in a variety of fields – the sciences, social sciences, and management – in which quantitative data play a significant role. Students will also explore and develop conceptual understanding and analytical skills that include numerical, graphical, logical, and algebraic approaches. Extensive use will be made of computer tools such as Word, Excel, PowerPoint, and the Internet.

Prerequisites
Placement through consultation with the School for New Learning (SNL) Advising Center or Faculty Mentor. No prerequisite courses are required.

Useful Resouces
Free Tutoring at the Quantitative Reasoning Center. For hours at the Lincoln Park Campus (224 and 268 SAC), contact: 773-325-4663, or visit the Website, http://qrc.depaul.edu/.

Free Math Tutoring by John Phillips. Scheduled campus hours TBA. Other hours may be arranged for a fee. Contact: 773-871-7413.

Learning Experience
Class sessions will meet regularly in a computer classroom. During class meetings, students will engage in a variety of learning activities that include lectures, collaborative group activities (most involving use of the computers), and discussion. Homework assignments will consist of project-based assignments and exercises that promote development of conceptual and procedural quantitative reasoning skills. Students may also access resources, check grades, and contribute to discussion threads in the course's Blackboard site: http://oll.depaul.edu/.

Course Materials
No text is required for this course. Students will need a scientific calculator (a graphing one is recommended but not required) and a small USB ("flash") drive for storing project files. Additional readings and resources will be provided at the course Website: http://qrc.depaul.edu/dopitz.

Competences and Outcomes
Students who satisfactorily complete this course will have demonstrated the following competence and associated criteria:

L6: *Can use mathematical symbols, concepts and methods to describe and solve problems*.

- Can understand and critique quantitative arguments, whether given numerically, graphically, or textually.
- Can apply mathematics or statistics to solve problems and describe relationships.
- Can explain how one's perspectives are influenced by mathematical language or reasoning.
- Can interpret data, charts, and graphs.
- Can create graphs to describe quantitative data and relationships.
- Can explain basic mathematical models and their limitations.

- Can solve basic algebraic equations.
- Can use basic statistical concepts to characterize data.
- Can use basic computer tools to analyze data.
- Can use financial applications such as compound interest, loan payments and basic tax concepts.

In addition to developing these competences, students who satisfactorily complete this course will have developed the core competences emphasized across the SNL curriculum: skills in communication, inquiry, experiential learning, and decision-making.

Assignments and Criteria for Assessment

Students demonstrate competence through the following types of work: class participation, weekly homework assignments, midterm and final exams, a written data analysis project, and presentation of the project. The following assessment criteria will be used in evaluating all assignments:

- Demonstrates development of the competence's criteria
- Completely addresses all questions posed in the assignment
- Fulfills formatting requirements specified in assignments (e.g., length, text format, etc.)
- Effectively analyzes problems using relevant quantitative skills
- Achieves accuracy and clarity in analyses
- Presents information using appropriate figures (e.g., table, chart, graph)
- Demonstrates development of conceptual understanding and application of ideas
- Written responses show good use of style, organization, spelling, and grammar
- Any information from other authors' works (including online sources) are properly attributed

Further explanation of each type of assignment follows:

Class participation. (200 points total.) Students' participation will be assessed based on how well contributions demonstrate development of competence through in-class activities and discussions. Exemplary participation does not directly translate to being very vocal in class. A range of opportunities to participate in class in a variety of ways will exist, including small-group and paired activities, online exercises, class discussions, question/comment periods during and after lectures, Blackboard discussion threads, and individual consultations with the instructor. These varied opportunities are intended to foster equitable opportunities to demonstrate one's participation. Students' participation will be assessed on a weekly basis. No participation credit can be given for an unexcused absence (see policies on **Attendance and Late Work**).

Homework Assignments. (300 points total.) Instructions for individual assignments will be provided on separate handouts. Homework assignments encourage the extension and application of weekly concepts and skills addressed during class sessions.

Midterm and Final Examination. (300 points total: 150 points/exam.) To encourage mastery of the course's competence, students will complete two examinations during the course. *Students must take both exams to receive a passing grade for their enrolled competences in this course*.

Written Data Analysis Project. (125 points.) A culminating project in this course is an in-depth written analysis and presentation of data relating to a problem having social significance. The written analysis will involve use of data tables, mathematical modeling, numerical analysis, graphing, and narrative text to introduce, explain, and conclude the analysis. Further guidelines will be provided on a handout.

Presentation of Project. (75 points.) To encourage development of effective oral presentation skills, students will give in-class presentations of their projects during the final class session. PowerPoint will be used for conveying key information and visual representations. Further guidelines will be provided on a handout..

Workload Expectations
For satisfactory completion of this course, students in this class are expected to spend at least 2 hours involved in outside class preparation for every hour spent in class. For a three-hour class period, that translates to 6 hours of outside work each week.

Policy on Late Work
Any missed assignment or work submitted late will merit no credit unless an arrangement was negotiated with the instructor prior to the due date. (Documented emergencies are exceptions.) All negotiated late submissions are subject to a grade reduction of 5% for each business day for which the submission is late.

Policy on Attendance
DePaul University anticipates that all students will attend all class meetings of this course. Attendance is essential to success in this class. Should extenuating circumstances necessitate an absence, when possible students must inform the instructor in advance. Work missed due to absences is subject to the Policy on Late Work. Students missing more than 2 class meetings may be asked to withdraw from the course or receive a failing grade.

Academic Integrity Policy
Violations of academic integrity include but are not limited to the following categories: cheating, plagiarism, fabrication, falsification or sabotage of research data, destruction or misuse of the University's academic resources, alteration or falsification of academic records, and academic misconduct. Conduct that is punishable under the Policy may, at the instructor's discretion, result in sanctions that include a grade of F for the assignment or the entire course and do not preclude SNL or the University from taking further action, including dismissal and/or criminal or civil prosecution. See http://studentaffairs.depaul.edu/handbook/index.html.

Plagiarism
Plagiarism is a major violation of academic integrity involving the presentation of the work of another as one's own. Plagiarism includes but is not limited to the following:

- The direct copying of any source, such as written and verbal material, computer files, audio disks, video programs or musical scores, whether published or unpublished, in whole or part, without proper acknowledgment that it is someone else's.
- Copying of any source in whole or part with only minor changes in wording or syntax, even with acknowledgment.
- Submitting as one's own work a report, examination paper, computer file, lab report or other assignment that has been prepared by someone else. This includes research papers purchased from any other person or agency.
- The paraphrasing of another's work or ideas without proper acknowledgment.

Grading
The total points possible for each category of work are as follows:

200	Class participation
300	Homework assignments
125	Written Data Analysis project

75	Presentation of project
150	Midterm Examination
150	Final Examination
1000	**Total**

To assign course grades, the following grading scale and University grading standards will be used. (Partial points will be rounded up to the nearest whole point.)

Grade	Points	Grade	Points
A	930-1000	**C**	730-769
A-	900-929	**C-**	700-729
B+	870-899	**D+**	670-699
B	830-859	**D**	650-669
B-	800-829	**F**	0-649
C+	770-799		

A Accomplished the stated objectives of the course in an EXCELLENT manner
B Accomplished the stated objectives of the course in a VERY GOOD manner
C Accomplished the stated objectives of the course in a SATISFACTORY manner
D Accomplished the stated objectives of the course in a POOR manner
F Did NOT accomplish the stated objectives of the course
IN Temporary grade indicating that the student has a satisfactory record in work completed, but for unusual or unforeseeable circumstances not encountered by other students in the class and acceptable to the instructor is prevented from completing the course requirements by the end of the term. The student must request this grade from the instructor by submitting the form, "Contract for the Issuance of an Incomplete (IN) Grade," available on the SNL Web site. At the end of the second quarter (excluding summer) following the term in which the incomplete grade was assigned, a remaining IN grade will automatically convert to an F grade. Ordinarily no incomplete grade may be completed after the grace period has expired. Instructors may not change IN grades after the end of the grace period without the SNL Exceptions Committee's permission.
PA Passing achievement in a pass/fail course. (Grades A through C-.) **Students who take this course pass/fail must request this option from the instructor. Students who request pass/fail grading cannot revert to A-F grading.**
W Automatically recorded when the student's withdrawal is processed after the deadline to withdraw without penalty, but within the stipulated period.
WA Administrative withdrawal, assigned by someone other than the student, whether within or outside the stipulated period of withdrawals.
WN Administrative withdrawal for no-shows, to indicate a student who was admitted, registered for one term of classes, but never actually came to DePaul.
FX Student stopped attending course. This is an apparent withdrawal. The grade can be changed to a W, WA or WN. If not administratively removed, it is scored in the grade point average the same as an F. Students should contact their college office to initiate the request to amend an FX grade. An FX grade may not be changed if it has remained on the student's record beyond 12 months except in extraordinary circumstances. Back to top.

Disability Accommodations
Any student needing an accommodation in this course due to a documented disability is asked to bring this to the instructor's attention at the beginning of the course. Needs will be addressed

in cooperation with the Office of Students with Disabilities, 773-325-7290 or 773-325-7296 (TTY); or the Productive Learning Strategies Program (PLuS), 773-325-1677.

Chronic Illness Initiative
The Chronic Illness Initiative (CII) provides access to higher education for students disabled by a chronic illness. Students who struggle with illnesses that unpredictably increase and decrease in severity such as chronic fatigue syndrome, rheumatoid arthritis, lupus or illnesses requiring frequent hospitalizations such as cancer or heart disease, may have found it difficult, if not impossible, to meet the requirements of a conventional college program. At the School for New Learning, staff and faculty are compassionate and committed to helping CII students achieve their educational goals. For more information, contact CII at CII@depaul.edu.

Adult & Suburban Student Services
The Office of Adult & Suburban Student Services provides resources to address adult students' unique needs and to help with managing student life at DePaul. On-site staff members are available at the Adult Student Center, 11017 DePaul Center (Loop); phone: 312-362-6216.

Resources for Student Writers
DePaul University's Writing Centers offer resources for student writers through on-site and online services. Visit the Loop Writing Center in 1620 Lewis Center, call 312-362-6726, email wcenter@depaul.edu, or go to http://condor.depaul.edu/~writing/. Writing resources tailored for SNL students are also available at http://snl.depaul.edu/writing/index.html.

DePaul Code of Student Responsibility
The Code outlines the minimum acceptable level of conduct expected of every student of DePaul University, including respectful classroom behavior. DePaul condemns any form of harassment, discrimination, and/or assault behavior and any such conduct is subject to University disciplinary sanctions. See http://studentaffairs.depaul.edu/handbook/index.html for the complete Code.

Complaints Regarding Grades, Teaching, or Advising
Students with complaints about grades, teaching, or advising should first try to resolve the problem with the faculty or staff member involved. If no satisfactory resolution can be reached, students may then discuss the matter with the Associate Dean of SNL, 200 Lewis Center, 312-362-8001.

About the Instructor
Donald Opitz is an Assistant Professor at the School for New Learning. He received his Ph.D. in the history of science from the University of Minnesota and B.S. in physics and mathematics from DePaul University.